

Publication number: DE20017009U
Publication date: 2001-01-11
Inventor:
Applicant: SONDERMANN RUDOLF (DE); ADLER HELMUT (DE)
Classification:
- **international:** H04N7/18; H04N7/18; (IPC1-7): G08B25/08; G08B13/196; G08B25/10;
H04N7/18
- **european:** H04N7/18C
Application number: DE20002017009U 20000928
Priority number(s): DE20002017009U 20000928; DE19991046772 19990929

Description title: Monitor for objects, like buildings and areas
the invention refers to a monitor for objects, like buildings and areas.

The outgoing 20th Century is coined/shaped in the sector of safety precautions for einzelobjekte, building complexes, building environment and areas by an always large need after protection of property and monitoring.

The quantitative increase of the Einbruchsdelikte in the 90's finds their precipitation in the statistics of Federal Criminal Investigation Office (Federal Bureau of Criminal Investigations) and state criminal police agency (LKA). Turned around proportionally the clearing-up of Eigentumsdelikten, thefts and break-downs constantly drops in this time.

In the time of 1991 to 1998 the number of the registered break-downs rose in Germany of less than 250,000 to a number of 380.000 per year, of it approx.. 170,000 break-downs in dwellings and approx.. 210,000 break-downs in enterprises. This means at a number of approx.. 2 million residential buildings that in the yearly cut at first into each five tenth and up-to-date already nearly into each tenth house in Germany in the course of a yearly one breaks in (source: BKA/LKA of annual reports 1991-1998).

Almost twice as highly and for the particular not less painfully and with substantial financial expenditures connected, in order the damage to sound, is the number of damages. The Federal Bureau of Criminal Investigations specifies 650,000 cases, which are allotted to the half to the private and

the commercial range in its last statistics. If one unites this statistics with the break-downs, the following result results. The statistics means that in the yearly

cut 1998 each fifth house became victim of break-down or Vandalismus (source: Announcement Federal Bureau of Criminal Investigations annual report 1998). In contrast to this the clearing-up ratio is understood in a constant decrease. 1991 if still 22 % of the break-downs were cleared up, then the percentage in the course of the years decreased/went back over 14 % in 1994 now on 11 % in the last year (source: BKA/LKA of annual reports 1991 1998).

Around some more frightening picture the view of the thefts and the unauthorized penetration into the various forms of business premises, shops, offices, workshops, factories and industriellen complexes supplies. Even if within this range security and guard enjoy in principle a higher value, then there external factors prevent a better protection balance.

The insurance economy today already refuses an insurance protection for commercial customers, if these did not install alarm installations after the guidelines of the federation of the insurance against material damage carriers in Germany (VDS).

I.e., a tradesman, who would like to insure an object against break-down or theft, must install himself a break-down safety device, which becomes been suitable in the eyes of the VDS as outstanding, and by an awake company, which VDS be likewise examined must, to supervise leave themselves (guidelines of the VDS, conditions 1998).

Both is connected with high costs and some centralconstant enterprise and in particular ladengeschaefte wants and to know this expenditure not to afford. Therefore it is not amazing , if the number of Eindringungsdelikte in the commercial and industriellen sector exhibit today the highest break-down ratios. With approx.. 1 million of commercial objects became each fifth commercial object in the past year a goal of a penetration by force and the clearing-up ratio are on approx.. 11 % sunk (source BKA/LKA annual report 1998).

One consults also here the numbers of the damage also, arises within the commercial range a situation, where each second commercial location on break-down, tried break-down on damage and deliberate Randalismus and Vandalismus must count. The trend of this development seems unbroken. One could assume that the government authority of the increasing criminality bent itself, if one holds oneself the following fact before eyes:

announces after VDS, thus after the highest editions of the special insurers furnished alarm installation a suspicious occurrence, then the police can decide the alleged scene after usual practice after own discretion, whether it follows to this incident directly, thus on the fastest way visits, or whether the incident afterwards over the official routine becomes on record.

Like it to this apparently unbelievable development to come could, in the following will become still clearer, since this is to due not only to overloading of

the clearing-up authorities, but also to an insufficient security system.

Around the present situation one building gebaeude-oder project supervision once to represent, is to serve as example a typical situation. A supermarket installed a monitoring device, which secures

an area with movement alarm units within the business. If this plant registers now a movement within its ueberwachungsfeldes, then it releases an alarm in an external control center over a voice grade channel. In this control center coworkers of the guard service before an arrangement of telephones, PC screens and displays sit. The released case of emergency expresses itself over a clay/tone sequence and on a screen can a coding be read off, which is assigned exactly to a certain object. The coworkers register thus accurately the supermarket, which announced the case of emergency. They can infer first behavior measures from an assigned display, which to them name, address, kind of the monitoring, as well as further data to the object and for procedure for the case alarm supply with.

In this example they are to examine the supermarket immediately for intruders and two coworkers go immediately into being available vehicles and to take the way to the monitoring building in attack. If it concerns a larger alarm center, which employs coworkers steadily with control travels, then it is alternatively first examined whether on patrol of coworkers present the object cannot reach faster.

Is likewise possible the fact that the coworkers take up contact with the responsible police station directly and so that arranges the employment of the police. A police car starts moving to the alarm-releasing project. —

furthermore be it possible, that the the coworker the of the control center telephone a a determine person, for example the the business owner, which leader or one

other person inform, which the the object direct visit be, in order the the cause the of the alarm determine.

In many cases combinations are that above described reactions prescribed.

In each case it is to be noted that with the occurrence of the alarm nobody knows the cause for releasing from the circle of the involved ones, and all involved ones must accept first ways, in order to determine the trip. This disadvantage is well-known all involved one, and so they try to adjust this with different means. For example large enterprises maintain own guard staff, which

must complete certain strip courses, in order to guarantee as complete a monitoring as possible. With the occurrence of an alarm one hopes that the guard staff can intervene immediately.

The task of Patroulliengaengen takes over naturally also external safety personnel.

Awake companies undertake Patroullienfahrten from object to object, in order to examine in regular or irregular intervals the security situation.

With these measures the probability rises to arrive with the occurrence of an alarm faster locally. A complete monitoring of a building or an object is not however under any circumstances secured.

A further possibility, in order to increase the degree of the monitoring, is tried by the employment by monitoring cameras. Thus the individual large-scale enterprise already addressed can a network of monitoring cameras to install itself

leave and from a Pfoertnerloge or an own monitoring area the guard organize. Since however no humans can hold permanently and without break a larger number of screens in the eye, one dies the following compromise. Per person monitoring personnel up to four screens are installed. Are distributed over the building or object more cameras, than the guard staff can observe, one lets the pictures of the individual cameras in the change on the monitors illustrate.

These pictures of the individual cameras jumping from location to location are well-known also from department stores or from gas stations, in order to demonstrate the customers that they are observed.

As however these cameras in the public verkehrsraum finally the shoplifting not exterminating can, then also the camera monitoring of buildings and objects pushes to a natural border, since a constant operational readiness level of all places on the monitors, necessarily which can be controlled, is not to be ensured, and humans become fair a permanent task of observation before a screen also only with extreme effort.

Meanwhile also three largest Wach-und of security agencies in Germany offer a video monitoring of buildings and objects. On the one hand current or sporadic observations can be offered, on the other hand are possible in the case of emergency the structure to a line of sight connection for the supervised complex. This possibility is offered however only to an exclusive clientele, since to constantly take cannot be zugemutet to the guard staff, just like in the before described case of an enterprise-internal solution, for all customers

insight into all guarded complexes. Also the question of cost for the setting-up of the cameras is so far counter productive.

A complete monitoring is not to be ensured with the latest state of development Wach-und safety practice.

As locking point of the view, how in the today's time a building or an object is observed, it must be still added that the camera monitoring addressed last pushes also in the case to a border, if the lighting conditions do not permit photographs any longer. If an interior illuminating of a building is still conceivable for day and night, then illuminating of an external district becomes increasingly more difficult. If one has no special camera for small luminous intensity, then the external monitoring ends with the occurring of the dawn.

Turns we after the detailed excursion in the different methods and levels of development in today's Wach-und safety practice now for our output example back, where after releasing the alarm the two awake persons mount their car, in order to drive to the supermarket, from which the alarm was announced.

Admits as from the Vorgesagten, is under no circumstances well-known in the case of the alerting, a which cause released the alarm. The two awake people approach thus the supermarket and must be calm on the following situations:
it could have taken place a break-down, and the burglars still are in the building.
Then the situation requires one

careful estimate of the possibilities, how one places oneself to the intruders, in order not to endanger itself. If reactions by force are to be expected, the alerting of a police station is inevitable.

Likewise the burglars could have already left the place of the penetration. If it came however to an opening by force of the locked building, safeguards stand on, in order not to leave the supermarket openly and unprotected.

Possibly it could not concern at all a burglar, who penetrated into the building, but a coworker of the supermarket visited the market at the time of the switched on alarm and released the alarm unknowingly. Then at least the authentication would have to be examined and taken place an instruction.

In addition, conceivable is that it concerns only a technical defect that for instance a voltage drop in the local current supply released the alarm.

The causes could have to be looked for giving way shelves or cover falls in the

mechanism or in the building, would be causal.

Even if a fire had broken, will the alarm function off is activated.

In the long run also a perfectly harmless cause could be the basis for the alarm accumulated duly. A umstuerzender beverage dose pile gave

the cause for the message to the alarm safety device. In many cases are also birds, bats, or cats causes of such notifications of emergency.

The releasing cause of the alarm is thus still uncertain while driving to the object.

Measures are seized also here, in order to limit the cause. Progressive awake centers identify the release on the basis the furnished release mechanisms. So they can differentiate between a set of alarm givers, like door tuer-oder window opening alarm unit, movement alarm unit, smoke detector, Glasbruch glasbruch- oder vibration alarm unit, power failure alarm unit and further more.

Already cameras are installed, are the last state of the art that all changes in the picture are registered and a simultaneous alarm release take place. As already explained, this technology is meant however only held ready for a small circle of selected customers, since it is cost-intensive, a increased technical expenditure, and optimal lighting conditions presupposes. For observations in the darkness a second additional infrared system would have to be installed.

Recapitulatory is to be said the again following:

every time an alarm release is effected, the cause already occurred. If guard staff makes itself on the way to be usually constituted in order to fathom the cause, it is before arrival with the object not completely. The alarm concerns a disturbance at the outer skin or inside a building in the very most cases.

A monitoring of the apron or the environment turns out for the following reasons as expressed difficult:

the number of possible fault signals is substantial opposite the inside of a building hoehler.Bewegungs hoehler.Bewegungs-oder vibration alarm units can through in the wind varying plants, shrubs and trees, or by birds, animals as well as indifferently happening humans or vehicles be released.

It would come to an abundance of fehlmeldungen.

Witterungs- und external conditions are subjected to constant fluctuations. The technology would have to be adapted to the external conditions. Wetness protection, changing temperatures, heat, sun exposure, cold weather, ice and snow would have to be considered. Sensitive alarm sensors would fail under these conditions easily.

The day and night rhythm outside makes even observations more difficult, since it is substantially more complex contrary to a building inside. On the inside residence phase a watch dog time area can be defined, in on stays, movements or changes not to count is after Betriebsund. This is to be however never excluded in the outlying district completely. Alarm systems become often misdirected outside of a building.

Which comes into all discussions, collections and statistic evaluations agreeing to the expression is the fact that in 91 % of all cases the notification of emergency is based on a fehlmeldung (source: Empiric reports of winner countries awake centers; Statements of organs of the VDS, reports of insurance; landspreadding statistic

evaluation of Dutch guard enterprises, as per statements Conesco).

This unbelievable amassment of alarm releases which can not be reconstructed robs the sleep from managing directors, lets the guard industry always new allegedly systems afflicted with fewer fehlmeldungen present and is in the rest of the central source of income of the guard enterprises. Because with less than 10 % genuine argument with a threatening situation will also usually below agreed wages paid temporary workers or coworkers with remuneration after dem630, -- DM law of the task fairly to undertake a travel for the place of the notification of emergency in order to measure the situation. They usually determine no cause and switch the alarm installation again "sharply". In the rare cases, where the notification of emergency was justified, besides that or the causers usually already left the scene, so that they must pass only only the developed damage on.

Natural charges for however the guard enterprise everyone starts to a alarm-signaling building or object, and so the majority of the incomes of a guard enterprise from incorrect notifications of emergency is denied.

As also held in the aforementioned one, also the order authority argued with this situation.

If on a notification of emergency a police patrol to the repeated mark started in vain an assumed scene, then also a justified feeling of the indignation about the

insufficient force of expression of an announced case of emergency adjusts itself apart from frustration. The effects are fatal in double regard. The police authorities release first of all to the police stations planned for

the determination of Eigentumsdelikten whether they want to react to a notification of emergency of a building or an object secured with an alarm installation at all. After the third false alarm to the same location an immediate reaction will not any longer take place (source: Behavior guidelines for police authorities of the country North Rhine-Westphalia).

In second regard in addition, the police authority places each futile starts themselves to one afterwards as false alarm for proving employment to the owner of the supervised building or object in calculation.

The unsatisfactory Erkennungssystemeines "echten" Alarmfalls and those economically seen for the owner unfavorable consequences again strengthened by the behavior of the special insurers, because the insurance must in the course of a rising criminality, which can spread in the protection of these scandalous "Bewachungsluecke" ungestraft further, which leads naturally to rising insurance benefits for occurred cases of damage, again the insurance premiums for the owner to increase. At the same time rise the editions for guard enterprises, which are stopped under demsiegel "VDS geprueft" zu safeguards always resuming, which in the consequence to increased remuneration of sides before breakdowns or damages of the protection-searching lead must.

The invention is the basis the task to create a monitor with that the aforementioned disadvantages are as far as possible eliminated and/or which the possibility provides of making itself a comprehensive picture of the place of the alarm release so as if one would be at the moment

the alarm release locally and the cause for the release is recognizable and the same in picture and clay/tone for a proof is held.

This task is solved according to invention by the marking characteristics requirement for protection of the 1.

Appropriate training further of the invention are characterized in the unteranspruechen.

The monitor according to invention opens Hoer-und voice communication as the first system an observation passage with view -, to each alarm releasing sensor at the moment the occurrence.

Further ones of advantages result from the following description z. T. On the basis block plugging diagrams.

Fig shows. 1 a schematic structure of the Ueberwachungsystems and Fig. 2a and 2b the expiration of a case of emergency.

The monitor for objects such as buildings and areas consists altogether of a set of components, which are compound in a new way, whereby also within the components characteristics are linked with one another in new way.

In a control center devices are arranged to Audio-und video communication, like microphones, loudspeakers, monitors, cameras and such (in Fig. 1 not separately

represented). These devices and/or the control center are and/or are connected by voice grade channels 2 with in and/or at the objects planned alarm unit. At the alarm units several devices are connectable for monitoring, as for example cameras, loudspeakers, microphones as well as alarm trips, which are integrated preferably together with a record device in the camera.

The connection of the alarm units with the cameras can be made either over commercial electrical lines or over a radio link.

The controlling of the cameras, i.e. Turn the same, attitude of the objective (Tele, zoom shot, Wide) etc., are made by the voice grade channels from the control center, after the appropriate alarm unit is connected automatically during alarm release with the control center and/or the alarm releases.

In and/or at the objects cameras present 4 exhibit themselves an automatic change-over of a color recording with daylight on a mono chrome recording with infrared on falling below a certain luminous intensity.

-The core component of the Ueberwachungsystems is the interactive facility of audio and video by means of video communication.

Equipment, which is installed at one location which can be supervised, is in the situation, over a simple ISDN voice grade channel, as they are offered world-wide over the different telefongesellschaften, connection to homogeneous equipment in an awake center to take up, which can be settled in arbitrary distance. Over this connection with 2 B channels and a transmission capacity of 128 KB/SEC. Clay/tone, and

control signals will transfer picture into both directions. In the dialogue the possibility results of communicating in real time with one another.

Around the dialogue to support, the video communication terminals on both sides are equipped with microphone and camera.

For the audio exchange and around the pictures of the taking up cameras mutually to illustrate both sides need a monitor with loudspeaker; this can consist of a TV monitor, a PC screen, LCD display or a similarly common digital illustration possibility, in either, how with the television the clay/tone is already integrated, or where to the pictures the associated clay/tone is added over its own loudspeaker system.

Partial components on the side of the building or object which can be supervised are to the first alarm trip which can be installed there. The whole pallet of the monitoring sensor technology from mechanical vibration alarm units to highly sophisticated suspicious factor announcements, described before, can be applicable for it. It is crucial that all common initiation signal is announced in electronic form to the installed video communication terminal.

In different places of the building or project monitoring activities which can be supervised needs, i.e. A set of cameras and microphones installs, then one would need particular supervisory body an entrance in principle for everyone for the ISDN telephone network. For practice the terminal of the monitor offers the possibility of switching up to 8 audio/video entrances to a terminal.

Can be made the electronic signal forwarding from the alarm sensor technology to the video communication terminal, as previously mentioned, either by a commercial electrical line or

by means of a radio link with transmitter at the point of the monitoring and receiver in direct proximity of the terminal.

Over a linkage of audio inlet, video transmission and alert can make the terminal a clear allocation to a certain location which can be supervised.

Partial components on the side of the control center essentially consist of a central audio/video telephone system, which locks detailed notifications of emergency on picture monitors or monitors. As is the case for conventional awake centers also additional information over the announcing building or object, transmitted as well here at the same time, is to possibly read off the kind of the alarm and necessary additional measures from the screens or monitors.

The characteristic is to be seen in it that with the alarm release a

communication possibility with word and picture is created exactly immediately with the location, by which an alarm is announced. It is crucial that those offer reserved picture and voice communication between the place of the released alarm and the guard staff in the control center completely new options for the reaction to the occurred case of emergency to the Ueberwachungssystem according to invention.

Auxiliary components, in order to expand the completely new monitoring activity to an instrument of the monitor, are microphones and cameras, which observe the different locations of potential alarm releases. If the microphones and cameras are kept around the clock now all together 24 hr., i.e. In enterprise and equipped with a memory function, which stores steadily 1 minute in a continuous loop, then becomes secured

In the case of emergency of the memory. Storage with clay/tone and picture of the last minute before outbreak of the case of emergency can be overacted over an appropriate control instruction from the awake center immediately on the monitor of the guard. Thus the awake center can judge in few instants whether it concerns around a genuine case of emergency or one of the substantially more frequently arising false alarming.

One furnishes Ein-und elimination of the alarm installation in such a way that she leaves herself reacted to a control instruction over a isdntelefonleitung (technically seen it concerns generally common data exchange here over R-S 232Schnittstelle), then after a false alarm an alarm installation from awake center removed any far again to the starting position to shift back, in order to be able to react again to the occurrence of an alarm. The resetting of the alarm from the awake center without personal visiting of the location of the announced case of emergency is likewise a technical innovation, which is unknown in past guard practice.

R-S 232-Funktion for example swivelling makes for the camera possible in all directions, in order to extend the visual field beyond this requirement. By Zoom- und Wide functions can be increased objects on the monitor, in order to regard details, or made smaller, in order to seize it in its entirety. Peripheral to the awake function doors can be blocked or unlocked, windows closed, served to Rolladen, switched off light ein-und. Beyond pure guard services machines could be served, adjusted or waited. The field of these applications is inexhaustible and is the future of the technique adjustment and control from far locations.

One is so constituted location which can be supervised that alone a movement is within a visual field, it by approximation of a person, a umstuerzender structure, which is to be announced to opening a door etc., then the camera in its own control function each change one once for a certain time of developed overall view will register.

A photograph system, in which a camera recognizes movements or changes, is out suitable from itself to function as alarm trips without it requires its own additional alarm system.

Applies same, if the occurrence of a certain clay/tone can be registered over the microphone, or a combination of Ton-und image changing the case of emergency defines.

Target a location day and night to be guarded, whereby different lighting conditions (observation of a building yard, a zufahrtsstrasse etc. Or also unsatisfactory illuminating during a nocturnal interior monitoring) a problem with the admission of pictures to represent, a camera selected, which changes over automatically with increasing darkness to infrared enterprise. Thus no nachtblindheit will impair the monitoring, and by switching photo-sensitive objectives on the bright day on infrared photographs in the darkness the radius and the application type of the guard activity are substantially expanded. The kind according to invention of the monitoring security will increase straight ones during the monitoring of the outer skin of the buildings and a security of the apron or the Zuweges, which for the conventional systems borders set, and will avoid damage.

The new kind of the monitoring requires a re-orientation of the technical equipment at the locations, which must be supervised. A comprehensive beginning under installation course, not known in its complexity, is recapitulatory by picture and clay/tone, of sequences preplanned by alarm release and collection, from material alarm outbreaks and the storage, which developed for transmission of the alarm live and directly over arbitrary distances with the option of the return to the starting point.

Case the transmission from the locations of the monitoring to the terminal for Audio-und video communication in the building or object by radio signals to take place is, is recommended the employment 5.8 gigahertz of radio system for the warranty of the stoerungsfreiheit within the radio transmission distance. While with conventional radio frequencies at any time on misfires or disturbances to be counted is (alone a switched on microwave sorgt fuer "Bildsalat", besides the

current radio traffic of police, air traffic control, disturbs CD radio etc.), supplies the frequency troublefree, noiseless transmission comfort certified selected here in all German-language countries for commercial radio traffic.

The control center must guarantee first that also with a large number of supervised buildings or objects each alarm call penetrates to the guard personnel.

This is made possible for a waiting loop by the mechanism, so that no alarm call encounters a busy signal. The hundred percent collection of each case of emergency is for the client for the monitoring the first condition for the placing of orders.

The question about the cause of the released alarm can be answered for the first time with the monitor according to invention at the same time with the occurrence of the alarm. The possibility of rewinding a recording, in order to seek out the cause of the alarm release, is so far in direct connection with the alarm release not yet well-known. The evaluation effected in the highly sophisticated control center, those immediately, without having to leave the awake center, the consequences from the transmission from clay/tone and picture pulls.

Peripheral areas are to be referred or are details from the proximity to be regarded, the guard the camera will direct, in order to look at itself the supervised location in all details during regarding a supervised location.

By it it increases its information and increases its security of being able to react appropriately.

He sees himself thus in the sense of the word with it unknown a situation confronted, for example with the emerging of a person in the visual field of the camera, can he, without its familiar environment too rely, with the situation argue. It will be able to address the assumed intruder and a crucial surprise success will thus obtain. The directly surprised intruder will not find an object for an aggressive action, on the contrary it must justify itself for its stay or depart. If the guard in a the position is to lead dialogues under employment of psychological behavior defaults will it, without having to count ever on an escalation, in peace his consequences to pull.

The guard is discovered by Ton-und line of sight connection, which was developed by releasing the alarm, actually an unauthorized intruder, offers to him its technical equipment immediate storage that material and at the same time developing pictures. From the stored data a rapid identification can be derived by the employment of suitable kriminaltechnischer means. In each case a profile from clay/tone and picture documents is to a determining police unit at the disposal, in order to introduce if necessary measures.

In addition, releasing the alarm and Ton-und facsimile connection accompanying with it clear circumstances up, which could not be recognized so far by bare knowledge of a case of emergency. A guard, who acts from a control center, can react to different realizations at the scene appropriately. If it concerns a burglar, it can request now aimed a police employment. It becomes in the case of a broken out fire, which a window burst read, when first inform the fire-brigade. If the intruder caused itself by the penetration to damage or if it attacked unexpectedly emerging third and hurts, as the first an ambulance is informed. Also kind and extent by injuries or armament of an intruder recognized on the screen can be conveyed immediately.

May be proceeded in the less dramatic case, if after message of a case of emergency the screen and the clay/tone connection do not show change of the location, from different one disturbance. It takes place next an intensive view of the location in the minute before outbreak of the alarm. The storage of the camera is observed on the screen of the awake center, and perhaps it shows an animal in the visual field of the camera. In others

cases a cause will not have to be constituted at all. If the realizations for an employment or an intervention are not thus sufficient, the guard is assistance of its technical equipment able, whom re-establish starting situation.

The monitor according to invention does not know false alarms.

The case of an alarm without a recognizable cause, frequently arising in practice, was marked in to today usual monitoring as false alarm. It would be connected with a travel to the supervised building or object, even if the malfunctioning for any reason were obvious and the involved ones of it had knowledge. A person would have to switch the alarm installation at the location of the false alarm wieder "scharf". This means compared with the cost reduction important to today usual monitoring activity.

The monitor according to invention is characterised also by energy conservation because of avoidance of driving services.

This applies without reservation also to to today usual and already described

control travels from customer protection object to customer protection object.

Apart from the consequence of the energy conservation equally a contribution arises to environmental protection to equate there fewer drives is with less gasoline consumption and a smaller load as a result of exhaust gases.

The monitor according to invention avoids unnecessary person employment. In prevailing the monitoring activity the today, as above, a set from persons is shown is forced to active acting, for example

the guard, who shifts its place of work, which assigned owners or the treatment of cases of emergency, which must be at any time present on the one hand, on the other hand courses of action fixed with the occurrence of the alarm arrange before must, the police station, which is requested in the case of emergency to intervene.

All these persons can assume with employment of a monitoring with the monitor according to invention they are alarmed not unnecessarily.

The monitor according to invention does not know gaps in the monitoring. The practice of courier travels has only a doubtful deterrence character, since between the Anfahrten to supervised buildings or objects longer guardless times lie. In contrast to this cameras and microphones work at the monitor according to invention around the clock.

Also steadily operated alarm devices of the time absent wise to today usual monitoring companies up, if one of the false alarms described before arises. Several minutes can offense depending upon distance, until the plant is reached by a particularly necessary person, in order to reset the alarm device again into their starting position. If this task of an awake company is transferred, which has to work on one or more alarms or false alarms arisen parallel to the same time, down-times of 1 hour and no rarity are longer.

The monitor according to invention does not endanger life and health on clearing-up persons. Since in a multiplicity of cases of emergency start be omitted can, the endangerment becomes alone An-und return trips of guard staff, police or

other persons already in the beginning, concerned with the clearing-up, reduces. The mostly nocturnal travels also nervlich exerting because of the uncertainty can be substantially limited.

After arrival of the monitoring persons at the building or object the location must be thoroughly searched in the past practice of the investigation. Where furthermore the lighting is not sufficient, partial unclear area with flashlights must be committed. Accidents, falls with breaks, scratches, larger or smaller injuries are the result.

Now actually the alarm an unauthorized penetration, for example a burglar or a group of intruders, is the basis arises dangerous situations, if a side threatens itself or believes into the tightness floated.

From escape and pursuit over Rempeleien and palpablenesses to force and firearm use the spectrum of the threatening conflict potential hands life and health.

Under the new conditions of the monitor according to invention a material case of emergency with penetration of unauthorized ones occurred the purposeful responding of the intruders from safe distance buildings or objects which can be supervised, by the medium of telecommunications will be made.

Violent arguments at the scene can develop in no way.

The monitor according to invention supplies secured information in the apron. After occurrence of a case of emergency a reliable statement about the momentary situation at the supervised and with a notification of emergency is made possible

location set into the picture. Abhorchen and graphic grasping of the situation bring from the beginning a level of knowledge, which can reach to today usual awake practice only at substantial expenditure and at a very much later time to the guard staff.

If now the facts it become known directly require, police, fire-brigade, rescue car or otherwise necessary task forces due to secured realizations are requested.

Straight lines the police units endeavored often in vain with experiences in past monitoring practice will notice with satisfaction that they are only called to the employment, if a punishable action is actually present.

The information, which the monitor according to invention can convey, goes far beyond bare indicating of a criminal offence existence. The task forces receive exact data concerning number of persons found at the supervised location, circumstances locally regarding movements, behavior or actions of the intruders, details over physical characteristics, like age, sex or other characteristics, information about tools, equipment or evtl. Armament as well as characteristics of

the location.

Are occupied universe these information with pictorial material. Over the memory function in the control center the digitally prepared pictures are noted by the monitoring place.

You can be evaluated directly and be sent over electronic media, as for example email, without time delay the Ermittlern.

The monitor according to invention lowers the costs of monitoring customers. Since the supplied data supply so far a not made possible level of knowledge, expenditures for an unaimed clearing-up of a case of emergency became void.

False alarms do not arise, whereby the costs of An-und return trips to the buildings which can be supervised or objects are void in 9 of 10 cases.

Are void the appearance necessary after a false alarm locally, in order to reset the alarm installation into the starting position, and the costs developing thereby likewise.

It is not necessary any longer to hold of sides ready of the owner one building or object which can be supervised own personnel for the fast reaction to a case of emergency. Also this leads to substantial cost savings.

If the employment of the police with a case of emergency afterwards as redundant turned out (usually with false alarms), it usual practice became to charge for the costs of the police car travel to the owner of the building or object which can be supervised.

To the illustration of future monitoring practice by the employment of the new monitor in the following exemplarily a typical monitoring situation is to be represented:

proceeds one from the same supermarket already described, which announces an alarm call into an awake center, whereby a monitor according to invention was this time already installed

and the alarm in a new control center is announced, with the releasing of the alarm a telecommunications terminal installed in the premises of the supermarket activated. This is made by one for releasing an alarm of typischen "Trigger more high" oder "triggers more low" Schalter, over which a voltage increase or waste

necessary for releasing the alarm is measured. One on the monitoring location aligned camera with Bild-und sound recording device fixes the last noted minute steadily in the same moment assistance of the same technical reaction before outbreak of the alarm. The telecommunications terminal selects then a programmed call number, in order over a ISDN voice grade channel the appropriate counterpart in that for example 100 km removed control center to reach.

In this control center sit two awake people before an arrangement of eight apparently enterprise grey screens not in, which went back in the starting situation on condition by. By the selection of the supermarket terminal one of these screens awakes, and before the first picture flashes and the clay/tone connection stands, the associated recognition data appear on the screen.

EMI27.1

the guard turns to the screen and observes its familiar screen layout. The view appears into an elongated area of a supermarket with several shelf rows and goods superstructures. In the foreground the exit with three cashes arranged next to each other is to be recognized. Since releasing the alarm by a registered movement in the screen window of the camera exactly 11 seconds passed.

Here first the scenario of a false alarm is described in the following:
the guard regarded attentively the live-bild from the supermarket (despite the small luminous intensity of the night lighting system it recognizes the courses of shelves and superstructures clearly), developed in very good image quality before him, and hears strained into the picture inside. He cannot notice any suspicious signs. Over to make sure it addresses over its loudspeaker in the supermarket some, for such case given sentences to the address of an imaginary intruder in the supermarket.

Simultaneous changes it the screen window and swivels the camera to the right over its control device to a detergent pile at edge of the screen window. It hears own words in the supermarket again-resound its. It does not agitate itself anything.

It regarded again its screen window and drives near with the camera more closely to the detergent pile. A package is because of the soil. Over to make sure it switches the camera to "Replay", rewinds it for short time and befeieht "Play".

The screen window jumps back to the original opinion, and the camera supplies the noted pictures of the condition to it with briefly before outbreak alarm.

Its special attention applies for the detergent pile. And it sees sudden, how without evident reason a package of

the top margin of the pile glides, estimates themselves and goes in the free area before the cashes to soil.

Satisfied it turns to its routine procedure. It waives the adjustment of the last noted minute in the camera in the supermarket by signal over the developed telephone connection. It repairs the short circuit contact, which triggered the notification of emergency by the image changing caused, on same way. The alarm installation is restarted. Finally it terminates telecommunications, registers the procedure into its awake book, and marks the recording of the entire procedure for the provisional file, stored in the awake center.

To the end of the month the owner of the supermarket can find the procedure in a standardized form apart from far monitoring activities, without he would have been concerned or up-frightened by this special case. The police was not alarmed.

Here first the scenario of a genuine alarm is described in the following:
the prehistory of a genuine alarm needs the 11 seconds likewise after releasing the alarm, until the guard has perfect Bild-und clay/tone connection.

It is once assumed also here that the guard recognizes no changes or movements on his screen window and also resounds its words in the supermarket, without causing a reaction.

Only in the Kameraaufzeichnung the last minute before releasing the alarm the guard recognizes that the package was touched clearly recognizably by a dark shape stepping into the picture and to soil rumbled. The person frightens, seizes themselves however relatively fast and moves ducked and slowly into the middle part of the supermarket, where she remains, until the recording ends.

The guard reacts, and first it switches the full light on of the supermarket over the telecommunications connection. Subsequently, it drives the camera on the widen-possible screen window and brings the short circuit alarm-releasing contact into the starting position. Each movement will cause a new alarm, which will be recognizable for the guard however alone.

Of its screen it reads off now the telephone number of the police in ABC city

and can with the employment directing center be connected. It announces the break-down and asks not to interrupt the connection since it can supply additional information possibly shortly. The guard turns to the screen again and addresses the intruders also after a psychological sample prepared sentences. Its words are transferred in the supermarket over a loudspeaker into the area, first without reaction. Then however the alarm contact is closed again, and the guard fixed the screen window, where a movement was to be recognized. It zoomt a cooling peace in the middle part of the supermarket near, where on the side turned away from the camera the head of a suspicious person shows up.

Satisfied the guard increases the admission to the head the screen fills and schiessteinen "Quick SHOT"

for the immediate digital recording and utilization of the taken up picture.

Now it addresses the intruder directly, confronts it with his identification by documentation of a camera, informs it, about the forthcoming arrival of the police and asks it calmly the inevitable questioning by the officials to wait for. Since the guard is connected with the police still, it inquires about the E-Mail address of the agency and sends themselves away in few seconds haven-guesses/advises the intruder, whom we leave hereby to its further fate.

The monitoring companies which can be found so far at the market are limited in the spatial expansion of their monitored area, since them in each case of emergency, as also during the supervising control travels, which buildings or object concerned must visit. In order to arrive at the place of their monitoring activity, the drive and the travel time may not exceed a certain extent, so that at all a danger warning can take place.

The monitor according to invention is spatially free there against. A telecommunications connection between Berlin and Munich needs the same time interval for the setting up as a internal-local connection, and the exchange with external places such as police, fire-brigade o. Ae. Is in the medium age no longer location dependent.

Supraregional active awake companies make do in the past guard service with many regionally strewn awake centers.

The monitor according to invention can bundle its country widely planned monitoring activity at a location. This has the advantage that opposite the

regional urban sprawl large synergy effects become effective.

Economical one, enterprise-political and practical reasons speak for such a procedure.

Economical is meaningful it, identical service requirements, like awake office, to make personnel or switchboards available once central instead of maintaining a multiplicity of smaller monitoring enterprises. The selection and number of enterprises which can be supervised can alone after economical, and not according to spatially limited criteria to be aligned.

If in the circles of the persons, whom one would like by such security systems from the penetration to hold, gets around oneself that a more effective system replaced the outdated security systems for identification and to the fast access, then practice it first restraint with such characterized objects.

Showing now thus by the monitor according to invention supervised the locations this fact publicly and for everyone recognizably on, then they practice genuine prevention by deterrence.

In last consequence from the prospective consequences also measurable economical effects will result. With simplest words is called expressed: with the monitor according to invention if supervised objects are avoided by burglars, all different win.

Haus-oder owner of building has fewer damage, decreased financial expenditure for the monitoring, and in a further step he can lower also the premiums for its Einbruch-und theft insurance.

The insurance economy is measurably relieved, since higher clearing-up and increased prevention mean fewer achievements in the case of loss for the insurance. It can and this over sinking of the insurance premiums will honor.

Are relieved the public sector, police, fire-brigade, hurting supply, and transport with fewer incidents and excluding purposeful requirements by unnecessary employments.

The monitor according to invention provides finally for an improvement of the energy balance, since a same or higher damage prevention with less consumption of environmental resources can be achieved.

Claims OF DE20017009U

1. Requirements for protection 1st monitor for objects, like buildings and areas, characterized by a control center, in which devices are arranged to Audio-and video communication, like microphones, loudspeakers, monitors, cameras and such, which are connected by voice grade channels with in and/or at the objects planned central alarm unit, whereby at the alarm units several devices are connectable to the monitoring, as for example cameras, loudspeakers, microphones as well as alarm trips, are manufactured the connection of the alarm trips with the cameras over commercial electrical lines or over a radio link and are so trained the alarm units that during an alarm release the same are connected automatically with the control center and/or the alarm to announce.
2. Monitor after Anspruch1, by the fact characterized that the control is made itself in and/or at the objects cameras present by the voice grade channel from the control center.
3. Monitor according to requirement 1 or 2, by the fact characterized that in and/or at the objects cameras present an automatic change-over of a color recording on a mono chrome recording with infrared exhibit themselves.
4. Monitor after one of the requirements 1 to 3, by the fact characterized that in and/or at the objects cameras present record devices exhibit themselves.

BEST AVAILABLE COPY
BEST AVAILABLE COPY